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Navy Medicine’s Engagement in Global Health

Filed under [FORCE HEALTH AND SAFETY](#), [HEATH](#), [HOSPITALS](#) (NO COMMENTS)

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Navy nurse leading Chamorro student nurses in ward inspection (1948). The Navy became involved in the affairs on Guam in 1898. In 1911, Navy nurses established a training school in Guam to instruct Chamorro women in health and hygiene. (BUMED archives)

The end of the Spanish American War (1898) marked the emergence of the United States as a global military power and the beginning of the Navy’s long history in global health engagement. At the start of the twentieth century, the Navy expanded into American Samoa (1900), Cuba (1903), Guam (1898), the Philippines (1905), Puerto Rico (1902), Territory of Hawaii (1898) and the Panama Canal Zone (1903); with these new ports came a host of endemic tropical illnesses with debilitating effects on military personnel. Navy doctors, hospital corpsmen and nurses were now serving on the frontlines in the war against these diseases.

The Navy’s chief weapon in this fight was new medical science; in the early twentieth century, its armory of scientific learning was the Navy Medical School¹. Under the tutelage of tropical medicine pioneers like [Drs. Edward Stitt](#),² James Gatewood³ and others, medical students


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investigated tropical disease vectors, prevention techniques and clinical laboratory procedures. Navy medical students would go on to vaccinate the native populations of American Samoa and Guam against smallpox in 1903 and 1905, respectively; help develop and administer anti-typhoid vaccinations (1912) ultimately stamping out the disease in the Navy and Marine Corps; and partake in a host of international relief efforts working with civilian populations throughout multiple continents. Across Navy Medicine, medical professionals were expanding their outreach in effort to lessen impact of disease in global populations. Navy nurses established training schools in American Samoa (1914), Guam (1911) and Haiti (1918) to instruct native women basics of health and hygiene. During the occupation of Haiti (1915-1934), Navy physicians, and hospital corpsmen alike, traveled throughout the country providing medical care to civilians and helped establish a Haitian public health office.⁴

In World War II, tropical diseases challenged U.S. forces like never before, and none more so than malaria. Malaria accounted for 68 percent (113,744) of all Navy and Marine Corps tropical disease casualties in the Pacific throughout the war. During the Guadalcanal campaign alone (7 August 1942 and 8 February 1943) over 60,000 American Soldiers, Sailors and Marines were stricken with malaria accounting for over a million man-days lost. Navy Medicine aggressively combated malarial fever by administering atabrine⁵ tablets and deploying epidemiological and malarial control units to locate and destroy Anopheles mosquitoes and their breeding grounds.



Cholera patients begin to recover after receiving special treatment prescribed by CAPT Robert Phillips and his medical research unit. They await transfer to the convalescent ward in the Cho Quan Hospital in the Saigon area (1964). (BUMED archives)

The 1940s also saw the development of the Navy Medical Research Unit (NAMRU) program. Throughout the next sixty years the NAMRU laboratories operated overseas in Addis Ababa (Ethiopia), Guam, Cairo (Egypt), Jakarta (Indonesia), Lima (Peru), and Taipei (Taiwan). Scientists at these labs spearheaded investigations into the causes and prevention of Avian influenza, diarrheal diseases, rheumatic fever, airborne infections, schistosomiasis, West Nile virus as well as lead pioneering efforts in containing diseases and developing vaccines. Today

September 2014 (20)
August 2014 (14)
July 2014 (13)
June 2014 (8)
May 2014 (11)
April 2014 (9)
March 2014 (14)
February 2014 (7)
January 2014 (7)
December 2013 (7)
November 2013 (12)
October 2013 (7)
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June 2013 (22)
May 2013 (15)
April 2013 (14)
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February 2013 (14)
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December 2012 (11)
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October 2012 (7)
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March 2012 (13)
February 2012 (14)
January 2012 (13)
December 2011 (13)
November 2011 (20)
October 2011 (22)
September 2011 (12)
August 2011 (16)
July 2011 (10)

[NAMRU-2 \(Pearl Harbor, Hawaii\)](#), [NAMRU-3 \(Cairo, Egypt\)](#), and [NAMRU-6 \(Lima, Peru\)](#) serve on the vanguard of biosurveillance and infectious disease field research and medical diplomacy.

Historically, the public face of global health care has been humanitarian assistance and disaster preparedness efforts. Throughout the last century, and into the first decades of the millennia, Navy Medicine has performed countless medical goodwill missions; and since 1965 Navy medical personnel have supplied vital services in Civil Action Programs like DENCAPS, MEDCAPs and MILPHAPs.

At least as far back as 1973, when [USS *Sanctuary*](#) cruised to Columbia and Haiti providing medical aid and assistance⁷, Navy hospital ships have served as powerful symbols of humanitarian work. More recently, [USNS *Comfort*](#) and [USNS *Mercy*](#) have become vehicles of “soft diplomacy” through their important roles in [Continuing Promise](#), [Operation Unified Response](#), and [Pacific Partnership](#).

Navy Medicine can boast of many heroes in the cause of global health, but two deserve special mention. Capt. Julius Amberson, MC, USN (1895-1988) traveled across Africa, the Middle East and India in the 1940s searching for causes of epidemics and their prevention. He was the first individual to discover that Penicillin was effective against louse-borne Relapsing Fever in Egypt (1944) and later helped develop mobile chemo-therapeutic technique for the cure of cholera in India (1945). As Officer-in-Charge of the Navy Medicine Science Group's Cairo-to-Capetown Expedition (1948), he traversed the African Continent from Port Said, Egypt, to Capetown overland investigating the geographic distribution of animal reservoir hosts of disease, vectors of disease, and clinical manifestation of tropical disease in man. He later served as Global Health Instructor at the Navy Medical School (1966-1970) and a technical advisor for a series of Navy produced global medicine training films.

Capt. Robert Phillips, MC, USN (1906-1976), served as a commanding officer of [NAMRU-3 \(Cairo\)](#) and later NAMRU-2 (Taipei). Throughout his career, Phillips earned a reputation for his research and treatment of tropical diseases, including the development of a vaccine against trachoma. His conception of a simpler cholera treatment was realized in the late 1960s with the development of glucose-based oral rehydration therapy, a monumental breakthrough to which many other investigators made vital contributions. Today, these simple advances have been integrated into everyday medical practice across the globe, saving millions of lives annually.

In the twenty-first century, the Navy Medical Department continues to perform a wide range of humanitarian operations, scientific research, and medical surveillance as part of a global health initiative. Throughout it all Navy Medicine continues to thrive as a global health care system fully engaged and integrated in providing high quality health care to beneficiaries in wartime and in peacetime.

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Footnotes:

(1) Originally established in Philadelphia, PA in 1823, the Naval Medical School was re-established in May 1902 at the Naval Museum of Hygiene in Washington, DC. The Navy Medical School's mission was simple: to instruct and train newly appointed medical officers in "professional branches peculiar to naval requirements." Here was an institution where newly commissioned physicians could learn the kind of medicine they would not have been exposed to in civilian medical schools—tropical medicine, the treatment of ballistic wounds, burns—in short, the grist of naval medicine. A five-month course had a curriculum covering microscopy, naval hygiene, military law, and a program of physical exercise and military drill akin to what any student might experience in a military school or service academy.

(2) Fifteenth Surgeon General of the Navy, RADM Edward R. Stitt (1867-1948) made his reputation as a teacher and the world's leading authority on tropical medicine and clinical laboratory procedures. His great interest in the subject was stimulated following the American victory in the Spanish-American War. Suddenly, U.S. sovereignty and responsibility included the populations of Guam, and the Philippines, Puerto Rico, and Cuba. Each of his books, *Diagnosis and Treatment of Tropical Diseases*, and *Practical Bacteriology*, have become classics read to this day.

(3) Medical Director James Duncan Gatewood (1857-1924) was the author of the seminal book *Naval Hygiene* (1909). From 1912 to 1916, Gatewood served as superintendent of the Naval Medical School.

(4) National d'Hygiene Publique

(5) Atabrine was the trade name for "quinacrine hydrochloride." These bright yellow bitter tasting pills were used throughout World War II as an anti-malarial. Atabrine largely replaced quinine in the war because of limited supply of cinchona bark.

(6) Dental civic action programs (DENCAPS), medical civic action program (MEDCAPS), and Military Provincial Health Assistance Program (MILPHAP).

(7) Throughout its "Handclasp Cruise," USS *Sanctuary* cared for 123 inpatients, 5,663 outpatients and more than 2,000 dental patients. Medical personnel performed nearly 200 surgeries and more than 10,000 tests and procedures. (Massman, Emory. *Hospital Ships of World War II: An Illustrated Reference*. Jefferson, NC: McFarland & Company, Inc. 1999).

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